UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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DEC 19 1989

Ref:

Mr. Dee Williamson
Monticello Project Manager
Department of Energy
Post Office Box 2567
Grand Junction, CO 81502-2567

Re: EPA and State Comments on the Monticello Millsite RI/FS and the Proposed Plan

Dear Mr. Williamson:

The Environmental Protection Agency (EPA), after consultation with the State of Utah (State) is submitting the following comments on the Draft Final Remedial Investigation/ Feasibility Study for the Monticello, Utah, Uranium Mill Tailings Site (RI/FS) and the Proposed Plan for the Remedial Action at the Monticello Millsite, Monticello, Utah (Proposed Plan). Comments are being submitted in the following manner. A copy of both the Proposed Plan and the RI/FS with minor edits and typographical errors are being submitted under separate cover.

In addition to the comments addressed herein, the State of Utah, Bureau of Radiatin Control, is submitting comments under separate cover which should be appended to this submittal. EPA concurs with the comments on ground water and cell design. With regard to the comments on siting of the repository the Agency's comments and requests for additional information are for the purpose of verifying and/or confirming the concerns raised about the location on the near-South Site.

EPA and the State have identified several issues which require some discussion and which are addressed in the following paragraphs. They include; RCRA ARARs, concerns with the South Site, and passive versus active restoration of the aquifer. Following the discussion of the above mentioned items specific comments addressing the RI/FS and the Proposed Plan have been listed.

RCRA ARARs

EPA and the State have determined that the regulations affecting radioactive materials as promulgated in 40 CFR Part 192 and as proposed in the "Standards for Remedial Actions at Inactive Uranium Processing Sites" are aimed at the specific

characteristics of radioactive materials and more fully match the characteristics at the site. Review and analysis of the major provisions within 40 CFR Part 192 indicate that they are functionally equivalent to and are more protective than potentially "relevant and appropriate" non-radioactive hazardous waste requirements of RCRA Subtitle C. The technological standards presently incorporated into 40 CFR Part 192 and the proposed rule, "Standards for Remedial Action at Inactive Uranium Processing Sites" provide sufficient protective conditions to make the determination that additional RCRA Subtitle C regulations are neither "relevant or appropriate" provided that DOE continues to incorporate the provisions of the proposed rule in the remedial action of the Monticello Millsite.

South Site Analysis and On-site vs. Off-site Determination

The State and EPA agree that on-site stabilization south of the present millsite is the preferred alternative for Operable Unit I (the mill tailings). In both the Proposed Plan and the draft final RI/FS (September 1989), however, the figure depicting the South Site Alternative has been revised from the draft RI/FS (April 1989). EPA has several concerns regarding the present schematic and the proposed location of the repository within the South Site alternative. It is important that the expanded South Site as depicted in the RI/FS and the Proposed Plan be presented and identified as a generic site and that the documents be revised to indicate that the final location of the repository within the South Site will be based on an evaluation of its location against the nine criteria (i.e., overall protection of human health and the environment; compliance with applicable or relevant and appropriate requirements; long term effectiveness and permanence and etc). The Agency is also required by Section 121 of SARA to comply with other environmental laws. EPA does not believe that the preliminary engineering investigations conducted to date on the South Site provide sufficient evidence to conclude that the near-South Site, as identified by the areal extent of existing contamination, has physical constraints which preclude the construction of the repository on that site.

Before a final determination is made regarding the location of the repository on the South Site, further investigation is necessary to identify the design constraints posed by topography, geology, and ground water conditions. We request that as a minimum the present drilling investigations at the South Site include a ground water study and analysis which will provide sufficient data to identify the piezometric surfaces both in the alluvium (pediment gravels) and in the underlying Mancos Shale. If studies indicate the presence of ground water at shallow depths below present ground elevations further study will need to be conducted to determine if it is practicable to de-water the site and make the site suitable. Either concurrently, or following completion of the ground water and subsurface

investigations, schematics should be made for a repository on the near-South Site which would contain 2.6 x 10^6 cubic yards of contaminated materials. These schematics shall include all topographic areas and not just those which provide a "straight forward," "we've always done it this way before approach". The schematics must incorporate all land areas where UMTRA standards of construction would allow tailings to be placed.

EPA's request for this analysis is predicated on the need to evaluate whether remediation (disposal) of the tailings on the near-South Site is technically feasible. The Agency believes that such an evaluation has significance in making a determination on whether the location of a repository on the far-South Site, on lands not presently contaminated from wind-blown tailings, would be considered an on-site alternative and therefore exempt from permitting requirements. By definition, "on-site" means the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action. The Agency has previously determined that for CERCLA response actions that defining "on-site" as the area having the same legal ownership as the primary contaminated area may not be useful. This is especially true when contamination has travelled a considerable distance away from the source such as has occurred at the Millsite from past wind-blown spreading of the contamination.

EPA's policy is not to locate new disposal units on uncontaminated land. Such options will be considered, however, when the only practical method for reducing the risk posed by the contamination is to construct a unit in very close proximity to the contamination. With regard to the tailings at the Monticello Millsite, the Agency agrees that the tailings must be removed from direct contact with the ground water and out of any probable floodplain of Montezuma Creek. This will require removal to a location off the existing Millsite property. The Agency believes that the relocation of the tailings to the near-South Site, on presently contaminated properties, is consistent with the definition of on-site. Furthermore, should the analysis requested above indicate that uncontaminated land in the South Site is required for implementation of the response action, then such property, as is necessary, will also be considered on-site and the remedial activities conducted pursuant to CERCLA may be exempt from all Federal, state or local permits.

Passive Restoration vs. Active Remediation of the Ground Water

The proposed rule 40 CFR Part 192 Standards for Remedial Actions at Inactive Uranium Processing Sites provides for the use of supplemental standards (i.e., passive restoration of ground water) for aquifers where restoration can be projected to occur naturally within a period less than 100 years, and where the ground water is not now and is not now projected to be used for

a public water system within this period ... provided satisfactory institutional control of public use of ground water and an adequate monitoring program is established and maintained throughout this extended disposal period.

A review of the preamble to 40 CFR Part 192 provides further insight into those situations or conditions under which supplemental standards may be permissible. The Agency does not believe that DOE should be required to institute active measures that would completely restore ground water if such restoration is technically impracticable from an engineering perspective, environmentally damaging, or excessively costly, and if, at a minimum, protection of human health and the environment is assured. Section 121(d)(4) of SARA recognizes that cleanup of contamination could sometimes cause environmental harm disproportionate to the health effects it would alleviate. If, for example, "a fragile ecosystem was impaired by any reasonable restoration process...."

Although the Agency believes that "active restoration should be carefully considered when evaluating the use of passive restoration, the provision to permit reliance on natural restoration is based on the judgement that sole reliance on active cleanup may not always be warranted...." The proposed final rule further states that "this mechanism may be considered where ground water concentration limits may be met through partial or complete reliance on natural processes and no use of the water as a source for a public water system exists or is projected." The State believes that the State Ground-Water Protection Rules and the State Clean-up Policy are site specific and applicable as State ARARs.

EPA believes from a more practical standpoint that the concern as to whether the remedy selected to treat the ground water is natural flushing of the aquifer, active treatment, or some combination of both, may be premature. Provided that the ROD indicates that cleanup will meet the standards promulgated at 40 CFR Part 192.02(a)(3)(iii) it would appear to be appropriate to delay a decision on the final remedy to be selected until such time as the source (tailings) of the contamination is removed from the site and additional data is collected to evaluate alternative remediation systems. It seems more appropriate that during removal of the tailings, additional studies be conducted to evaluate the possible remedies and the response of the aquifer to the remedies.

The State and EPA both believe that during the removal of the tailings and the contaminated materials beneath the tailings, some active remediation of ground water will have to occur. Since the extent of this removal and its effects on the quality of the ground water are presently unknown, a decision to continue some form of active remediation or to use a passive method or

perhaps a combination of active and passive treatment methods can not presently be made. The decision on ground water remediation should be made after removal of the tailings is completed and the condition of the ground water is further evaluated.

Further studies also need to be conducted to determine if natural restoration of the aquifer in Montezuma Canyon is warranted because of the potential environmental degradation which could occur if removal of the tailings and active treatment of the ground water is the remedy selected for the Millsite.

Utilization of this approach is consistent with the EPA's recent recommendation that we initiate action early on a small scale, while gathering more detailed data prior to committing to full-scale restoration. This recommendation is consistent with the Agency's guidance on remedial actions for contaminated ground water at Superfund sites. Further, this recommendation encourages the collection of data to allow design of an efficient cleanup approach that more accurately estimates the time frame required for remediation and the practicability of achieving cleanup goals. It may well be appropriate that the Record of Decision for the Millsite indicate that the remedial action be recognized as either an interim action or a final action with a contingency, and that the final action be selected or determined as part of the first five year review.

With regards to a more immediate concern, it may be appropriate to initiate an immediate response on the BLM well which has at various times been sampled and exhibited high concentration levels of some of the hazardous constituents.

Comments on the Draft Final Remedial Investigation Report

In the "Burro Canyon Aquifer" section of the RI report page 4-31, 2nd paragraph, 2nd and 4th sentences, the conversions from ft^2/d to m^2/d for transmissivity conversions are not correct. This is also true for the transmissivity conversions on pages 4-32, 4-37, and 4-38. These values need to be corrected and should be checked to make sure that the wrong values were not used in other calculations.

Comments on the Draft Final Feasibility Study Report (FS)

Most map and aerial photo illustrations in the RI/FS reports include some kind of scale. However some illustrations (for example: page 1-2, 1-3, and D-3 of the FS report) do not. Please review the RI/FS illustrations and include scales and legends on appropriate illustrations.

On August 30, 1989, the State received DOE's response to EPA's and the State of Utah's comments on ARARs for the Monticello Millsite. The State believes that Table 1-3 and 1-6

in the FS report need to be updated to reflect these comments and responses. It is realized that some ARAR issues still need to be clarified (such as which sections of the State Ground-Water protection Rules and the State Clean-up Policy are site specific). The concern regarding the "relevance and appropriateness" of RCRA ARARs has been addressed in detail above.

Section 3 in the FS report discusses the development and screening of preliminary action alternatives. Page 3-2 lists nine potential repository sites. A short discussion or table should be developed to indicate or explain the reasons why some sites were rejected and others not. A map depicting these site locations would also seem appropriate for those persons reading the FS report who are unfamiliar with the sites.

In several sections of the FS report stabilization in place and the emplacement of a slurry wall are mentioned as if they were still being contemplated as an alternative for the mill tailings remediation. Some of the locations in the FS report where this occurs have been marked in the edited FS version. Please make the necessary corrections and check to see if other references to this alternative remain in the documents.

One major comment regarding the cost analysis. The costs for disposal on-site appear reasonable, however the costs developed for the off-site proposal appear to be based on the development of a repository identical to that proposed on-site. Such a comparison would have been appropriate if a new or undeveloped site were being considered, however the comparative analysis assumes the removal or relocation of the tailings to a licensed repository. There would appear to be potentially significant cost savings for some of the listed items. For example, would it require the construction of two miles of new road on-site?, Is there a decontamination pad? Some specific comments on the cost analysis are listed below.

* According to the Superfund guidance as stated on page 4-8 of the feasibility study, inflation must be taken into account before present worth analysis can be performed. In the cost estimates, the costs are expressed in 1989 dollars and are allocated to the year in which they occur without taking into account inflation. It appears that the costs are then discounted. If inflation has not been incorporated in the analysis, please make the appropriate changes to include inflation or justify why inflation was neglected.

* In the cost estimates, some years appear to have two operating costs. For example on page F-23 of the FS report, the year 1996 has a cost of $250,000 and $42,000. Please explain this apparent inconsistency.

* Some of the present worth calculations can not be reproduced. For example the operating and maintenance costs on page F-23 of the FS report. Please make any necessary corrections.

* Please explain why the specified percentages were chosen for the indirect costs and the contingencies.

* Please explain why labor, materials, equipment, and subcontracting should all be allocated the same overhead percentage.

* The costs for hauling tailings to an alternate site would most likely be a subcontract and it is not apparent why they should be subject to the same indirect and overhead costs. Similarly, the costs for hauling clean material for the restoration of Montezuma Creek floodplain do not recognize the obvious economies of scale resulting from the trucks returning empty from the receiving repository.

Comments on the Proposed Plan

EPA and the State would like to submit the following general comments concerning the Proposed Plan. We believe that these comments should be addressed in the final "Proposed Plan" or in the Responsiveness Summary along with those comments received from the public. EPA and the State are also enclosing a copy of the document with numerous edits which should be incorporated in any final document or which should be addressed in an errata sheet.

* The Introduction Section should identify the lead and support agencies and should state that the proposed plan fulfills the requirements of CERCLA Section 117(a).

* The ability for persons unfamiliar with the site or those persons who have not had the opportunity to obtain a copy of the remedial investigation/feasibility study would benefit if the Setting and Background Section of the Proposed Plan included the following; a map of the Millsite showing the different tailing piles; a map showing the location of the peripheral properties; and a glossary of terms including a list of the acronyms used.

* The 3rd sentence in the 3rd paragraph of the Setting and Background Section states that the alluvial aquifer is separated by two aquitards from the deeper Burro Canyon Aquifer. It is our belief that this is only valid for part of the site and the wording of this section should be changed to clarify this.

* The Summary of Risk Section should describe how current risks from the Millsite compare to remediation risk goals (for example current carcinogenic risks of 10^{-2} will be reduced to 10^{-6}. The risk data as presented in the document should be worded so as to be meaningful to the general public. The cancer risk discussed on page number 8 (1×10^{4} to 1×10^{7}) should include an explanation in laymen's terms. The radiological risk levels presented in the tables should also be expressed in laymen's terms (e.g., the radiological risk of 2.38×10^{-2} might be better stated "For every one hundred people exposed to ... radiation from the millsite for 70 years one can anticipate an additional 2.38 deaths from cancer."

* One particular comment regarding a statement which was made in the Proposed Plan and which is also similarly stated in the RI/FS. It seems inappropriate to characterize the natural background radiation as the greatest risk in the Monticello area, when it is basically unavoidable. The decision on what risk above background levels is acceptable was made and documented as part of the standard setting process for 40 CFR 192 and should not be revisited here.

* As noted in the comments for the RI/FS, there are a number of concerns regarding the cost estimates which have been developed for the various alternatives. Any changes or revisions to the cost estimates which have been made to reflect those comments received on the RI/FS should also be included in the Proposed Plan wherever applicable.

EPA and the State of Utah thank DOE for the opportunity to comment on these draft final documents and hope that our comments resolve some of the issues which we have discussed in the past. We hope that our comments prove to be constructive and provide timely direction for the preparation of the Record of Decision. Should you have any questions regarding these comments please do not hesitate to call.

Sincerely

Paul S. Mushovic
Remedial Project Manager

cc: Gardner
Silvernale
Shannon
McLeod
Day